Amendments to the Specification:

Please insert the following paragraph prior to the heading "TECHNICAL FIELD" at page 1, line 3:

STATEMENT AS TO GOVERNMENT RIGHTS

The disclosed invention was made with support from the United States Government, which has certain rights in the invention pursuant to Grant No. 5R 44HL057108-03 awarded by the National Institutes of Health.

Please replace the paragraphs at page 4, line 9-page 5, line 11, with the following new paragraphs:

~~In accordance with the invention, an information display is provided in connection with Doppler ultrasound monitoring of blood flow and hemodynamics. A graphical display is used as a blood locator display that indicates locations along the axis of the ultrasound beam at which blood flow is detected. The blood locator display includes a location indicator, such as a pointer directed to a selected one of the locations. A second graphical display that can also be shown in conjunction with the blood locator display is a spectrogram indicating velocities of monitored blood flow at a selected location. The blood locator display may include a color region corresponding with the locations at which blood flow is detected. The blood locator display may additionally include color coding which indicates hemodynamic properties of the blood flow intercepted at various positions along the ultrasound beam axis. The color coding may vary as a function of normal versus abnormal hemodynamic properties of the underlying blood flow. The intensity of the color representative of blood flow or hemodynamic properties may also vary as a function of detected ultrasound signal amplitude or as a function of detected hemodynamic parameter (such as mean blood flow velocity).~~

~~The blood locator display allows a user to quickly locate blood flow along the ultrasound beam axis. Using the blood locator display, the location of blood flow of particular interest can be further refined by the user adjusting the aim of the ultrasound probe to produce a greater displayed intensity or spatial extent at the particular location of interest.~~

~~The blood locator display additionally will indicate by special coloring the depth locations of detected blood flow which has hemodynamic properties of interest to the user. Some examples of hemodynamics of interest that may be color coded into the blood locator display in this fashion are: mean or peak velocity for use in determining and characterizing local regions of stenosis or vasospasm, volume flow indices, vessel lumen area or diameter indices, indices for characterizing systolic acceleration, resistance, ejection time, vessel compliance, and indices describing stroke conditions such as the thrombolysis in brain ischemia (TIBI) transcranial Doppler flow grades. The user may then select the position of the pointer to reside in the region of hemodynamic interest and view the corresponding spectrogram for a more detailed evaluation of blood flow hemodynamics.~~

One aspect of the invention provides a Doppler ultrasound system that includes an ultrasound probe that emits ultrasound signals along an ultrasound beam axis and detects reflected signals, and further includes a processor coupled to the ultrasound probe. The processor is operable to generate Doppler ultrasound data from the detected reflected signals and process the Doppler ultrasound data to calculate blood flow data for a plurality of locations along the ultrasound beam axis and for a plurality of time intervals. The blood flow data includes blood flow velocity data and detected Doppler signal power data. The processor is further operable to identify from the blood flow data locations along the ultrasound beam axis at which blood flow having a hemodynamic characteristic is present.

In another aspect of the invention the Doppler ultrasound system further includes a graphical display coupled to the processor. Blood flow which has hemodynamic properties of interest to the user is indicated on the display by special coloring at the depth locations of the blood flow. Some examples of hemodynamics of interest that may be color coded in the display are: mean or peak velocity for use in determining and characterizing local regions of stenosis or vasospasm, volume flow indices, vessel lumen area or diameter indices, indices for characterizing systolic acceleration, resistance, ejection time, vessel compliance, and indices describing stroke conditions such as the thrombolysis in brain ischemia (TIBI) transcranial Doppler flow grades.

Another aspect of the invention provides a method for processing detected reflected signals in a Doppler ultrasound system having a ultrasound transducer emitting ultrasound signals. The detected reflected signals are processed and blood flow data for a plurality of locations along an ultrasound beam axis and for a plurality of time intervals are calculated from the processed signals. Locations along the ultrasound beam axis are identified at which blood flow having a hemodynamic characteristic is present from the calculated blood flow data. Blood flow information representative of detected blood flow and the presence of the hemodynamic characteristic is generated from the blood flow data.